



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/571,060	09/27/2007	Patrick Brouhon	200207058-4	1734
22879 7590 01/15/2009 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400				
EXAMINER WOLDEMARIAM, AKILILU K				
ART UNIT		PAPER NUMBER		
2624				
NOTIFICATION DATE		DELIVERY MODE		
01/15/2009		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JERRY.SHORMA@HP.COM

mkraft@hp.com

ipa.mail@hp.com

Office Action Summary

Application No.

10/571,060

Applicant(s)

BROUHON, PATRICK

Examiner

AKLILU k. WOLDEMARIAM

Art Unit

2624

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 March 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-30 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 08 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-8508)
Paper No(s)/Mail Date 03/08/2006
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 03/08/2006 was filed after the mailing date of 03/08/2006. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1-18 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent¹ and recent Federal Circuit decisions² indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform underlying subject matter nor positively tie to another statutory category that

¹ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

² *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

accomplishes the claimed method steps, and therefore do not qualify as a statutory process. Method claim is an abstract idea without a processor or a computer or a device.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 25 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Priddy et al., "Priddy" (U.S. Patent number 5, 464, 974 from IDS).

Regarding claim 25, *Pride discloses* a method of identifying a position identifying pattern on a product, the product having an image thereon including the position identifying pattern and a content feature (*see item 108, fig.5, identifying pattern distribution key*), the method comprising the steps of:

analyzing regions of the image to classify them as either a high density region or a low density region, for either the high or low density regions inverting the image, and processing the image to identify the position identifying pattern (*see items 104, 106 and 108, fig.5 determination of density, determination cell position and identifying pattern distribution key and column 6, lines 6-11, calculates the product of the number of squares contained in each side 14 and determines the density of cells contained within matrix 10. By calculating the angle of the matrix, the matrix size and the matrix density*).

Regarding claim 26, *Priddy discloses* a system for identifying a position identifying pattern on a product, the product having an image thereon including the position identifying pattern and a content feature (*see item 108, fig.5 identifying pattern distribution key*) the system comprising sensing means arranged to sense a number of regions of the image, and processing means arranged: to analyze each of the regions to classify it as either a high density region or a low density region (*see item 104, determination of density and column 6, lines 6-11, calculates the product of the number of squares contained in each side 14 and determines the density of cells contained within matrix 10. By calculating the angle of the matrix, the matrix size and the matrix density , CPU 28 can calculate the position of each visual cell*);

for either the high density regions or the low density regions (*see item 104, determination of density and column 6, lines 6-11, calculates the product of the number of squares contained in each side 14 and determines the density of cells contained within matrix 10. By calculating the angle of the matrix, the matrix size and the matrix density , CPU 28 can calculate the position of each visual cell*), to invert the image of that area, and to process the image to identify the position identifying pattern therein (*see fig.2c and column 4, lines 47-53, visual cells 22 may be in reverse serial order in a corner of matrix 10 (FIG. 2c) or they may be randomly distributed within matrix 10 (FIG. 2d). Each matrix 10 may be keyed to a specific visual cell placement depending upon the needs of each specific user. This enables a user to have patterns which are*

readable by either all users of a binary code and reverse serial order referred to invert area).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-24 and 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Priddy as applied to above in view of Peter (International Publication number WO 01/71644 A1 from IDS).

Regarding claim 1, *Priddy discloses* a method of generating an image comprising a position identifying pattern and content (*see items 106 and 108, fig.5 determining cell position and identifying pattern distribution key*) the method comprising the steps of:

defining criteria relating to a region where the content (*see column 3, lines 39-46, by defining the maximum range of characters that may appear at each position of the input string, it is possible to suppress those binary bits which contain information redundant and common to the entire range of characters thereby compressing the required number of visual squares to represent a single character to less than eight*).

identifying such a region in the image (*see column 6, lines 20-24, the pattern of data 19 is decoded by first identifying the pattern distribution key in accordance with step 108. The distribution key will always be stored as a number of visual cells located*

at a specific position relative to the corners of matrix 10 and matrix referred to as region); and

selecting a characteristic of the pattern or the content in the region on the basis of the criteria, such that the image in the region meets the criteria (*see item 108, fig. 5, identifying pattern distribution key and column 4, lines 26-38, the physical size may range from one-tenth of an inch square to seven inches square, but is limited only by the ability of the user's print device to create the selected size*).

Priddy does not disclose the pattern are superimposed, the criteria determining whether the pattern will be distinguishable over the content when applied to a product.

However, Peter discloses the pattern are superimposed, the criteria determining whether the pattern will be distinguishable over the content when applied to a product (*see page 8, lines 13-25 the determination of the locations of overlapping markings can be drawn from, for example, the technique of astrometrically determining positions of imaged stars which are located in dense starfields and overlapping referred to superimpose*).

It would have been to ordinary skill in the art at the time when the invention was made to use Peter's the pattern are superimposed, the criteria determining whether the pattern will be distinguishable over the content when applied to a product in Friddy's a method of generating an image comprising a position identifying pattern and content because it will allow to provide an improved solution for storing additional information in and reading additional information from images, [Peter, page 2, lines 11-13].

Regarding claim 2, *Priddy discloses* a method according to claim 1 wherein the characteristic is a characteristic of the pattern (*see items 104, 106 and 108, fig.5, determination of density, determining cell position and identifying pattern distribution key*).

Regarding claim 3, *Priddy discloses* a method according to claim 2 wherein the characteristic of the pattern within the region is selected depending on the density of the content within the region (*see items 104, 106 and 108, fig.5, determination of density, determining cell position and identifying pattern distribution key*).

Regarding claim 4, *Priddy discloses* a method according to claim 3 wherein the pattern is made up of a plurality of pattern elements and the characteristic is the density of each of the pattern elements (*see column 6, lines 6-11, calculates the product of the number of squares contained in each side 14 and determines the density of cells contained within matrix 10. By calculating the angle of the matrix, the matrix size and the matrix density*).

Regarding claim 5, *Priddy discloses* a method according to claim 4 wherein the density of each of the pattern elements is selected a high density and a low density (*see column 6, lines 6-11, calculates the product of the number of squares contained in each side 14 and determines the density of cells contained within matrix 10. By calculating the angle of the matrix, the matrix size and the matrix density*).

Regarding claim 6, *Priddy discloses* a method according to claim 5 wherein the high density corresponds to the pattern elements being substantially covered with marking material, when the image is applied to a product (*see column 6, lines 6-11,*

calculates the product of the number of squares contained in each side 14 and determines the density of cells contained within matrix 10. By calculating the angle of the matrix, the matrix size and the matrix density).

Regarding claim 7, *Priddy discloses* a method according to claim 5 or claim 6 wherein the low density corresponds to the pattern elements being left substantially free of marking material, when the image is applied to a product (see column 6, lines 6-11, *calculates the product of the number of squares contained in each side 14 and determines the density of cells contained within matrix 10. By calculating the angle of the matrix, the matrix size and the matrix density).*

Regarding claim 8, *Priddy discloses* a method according to claim 7 including defining a size of each of the pattern elements, the size depending on whether the pattern element is high density or low density (see column 6, lines 6-11, *calculates the product of the number of squares contained in each side 14 and determines the density of cells contained within matrix 10. By calculating the angle of the matrix, the matrix size and the matrix density).*

Regarding claim 9, *Priddy discloses* a method according to any of claims 4 to 8 further comprising classifying the content within the region as high density or low density, and selecting the low pattern element density if the content is high density, and the high pattern element density if the content is low density (see column 6, lines 6-11, *calculates the product of the number of squares contained in each side 14 and determines the density of cells contained within matrix 10. By calculating the angle of the matrix, the matrix size and the matrix density).*

Regarding claim 10, *Priddy discloses* a method according to claim 9 wherein the content within said region is classified as high, low or intermediate density, and the method further comprises modifying the content in the intermediate density content regions to make it higher or lower density thereby to maintain contrast between the content and the pattern in the intermediate density regions (*see column 6, lines 6-11, calculates the product of the number of squares contained in each side 14 and determines the density of cells contained within matrix 10. By calculating the angle of the matrix, the matrix size and the matrix density*).

Regarding claim 11, *Priddy discloses* a method according to claim 1 wherein the characteristic is a characteristic of the content (*see items 104, 106 and 108, fig.5, determination of density, determining cell position and identifying pattern distribution key*).

Regarding claim 12, *Priddy discloses* a method according to claim 11 wherein, the characteristic is the density of the content, which is limited to at least one predetermined range to maintain contrast between the content and the pattern within the region (*see items 104, 106 and 108, determination of density, determination cell position and identifying pattern distribution key and column 6, line 66-column 7, lines 16, the amount of desired redundancy is then input into CPU 28 ranging from no redundancy to as high as 400% repetition of the pattern*).

Regarding claim 13, *Peter discloses* a method according to any foregoing claim wherein the image is applied to a product using a marking material, the marking material being the same for the pattern and the content (*see page 8, lines 13-25,*

three-dimensional pattern recognition algorithms are applied which more or less directly give, for example, the center points of a marking which "flows together" with adjoining markings).

Regarding claim 14, *Peter discloses* a method according to claim 11 wherein the characteristic of the content is the nature of the marking material to be used when applying the content to a product (*see page 8, lines 13-25, three-dimensional pattern recognition algorithms are applied which more or less directly give, for example, the center points of a marking which "flows together" with adjoining markings).*

Regarding claim 15, *Peter discloses* a method according to claim 14 wherein the marking material is selected to be different from that selected for applying the pattern to the product (*see page 9, line 25- page 10, line 5, it is thus possible to print patterns which contain large markings/raster points without, for example losing the digitally coded position information and the symbols represent at least two different values, each symbol comprising one raster point and at least one marking).*

Regarding claim 16, *Peter discloses* a method according to any foregoing claim further comprising applying the image to a product (*see fig.1, a product is provided with a position-coding pattern).*

Regarding claim 17, *Peter discloses* a method according to claim 16 wherein the pattern and the content are applied to the product in a one pass process(*see fig.1, a product is provided with a position-coding pattern).*

Regarding claim 18, *Priddy discloses* a method according to claim 16 or claim 17 wherein the pattern and the content are applied to the product by a printer (*see items 24 and 30, optical scanner and printer*).

Regarding claim 19, *Priddy discloses* a system for generating an image comprising a position identifying pattern and content (*see items 106 and 108, fig.5 determining cell position and identifying pattern distribution key*) the system being arranged to:

have access to criteria relating to a region where the content (*see column 3, lines 39-46, by defining the maximum range of characters that may appear at each position of the input string, it is possible to suppress those binary bits which contain information redundant and common to the entire range of characters thereby compressing the required number of visual squares to represent a single character to less than eight*).

identify such a region in the image (*see column 6, lines 20-24, the pattern of data 19 is decoded by first identifying the pattern distribution key in accordance with step 108. The distribution key will always be stored as a number of visual cells located at a specific position relative to the corners of matrix 10 and matrix referred to as region*); and

select a characteristic of the pattern or the content in the region on the basis of the criteria, such that the image in the region meets the criteria (*see item 108, fig.5, identifying pattern distribution key and column 4, lines 26-38, the physical size may range from one-tenth of an inch square to seven inches square, but is limited only by the ability of the user's print device to create the selected size*).

Priddy does not disclose pattern are superimposed, the criteria determining whether the pattern will be distinguishable over the content when applied to a product.

However peter discloses pattern are superimposed, the criteria determining whether the pattern will be distinguishable over the content when applied to a product (see fig.6a and 6b, show details from the an image where overlapping markings have been provided with contracting indicators and page 8, lines 13-25 the determination of the locations of overlapping markings can be drawn from, for example, the technique of astrometrically determining positions of imaged stars which are located in dense starfields and overlapping referred to superimpose).

It would have been to ordinary skill in the art at the time when the invention was made to use Peter's the pattern are superimposed, the criteria determining whether the pattern will be distinguishable over the content when applied to a product in Friddy's a method of generating an image comprising a position identifying pattern and content because it will allow to provide an improved solution for storing additional information in and reading additional information from images, [Peter, page 2, lines 11-13].

Regarding claim 20, *Peter discloses* a system according to claim 19 further comprising a marking device arranged to apply the image to a product (see page 9, line 25- page 10, line 5, it is thus possible to print patterns which contain large markings/raster points without, for example losing the digitally coded position information and the symbols represent at least two different values, each symbol comprising one raster point and at least one marking).

Regarding claim 21, *Priddy* discloses a system according to claim 20 wherein the marking device is a printer (*see items 24 and 30, optical scanner and printer*).

Regarding claim 22, *Peter* discloses a system according to claim 20 or claim 21 wherein the marking device is arranged to apply the pattern and the content using the same marking material(*see page 9, line 25- page 10, line 5, it is thus possible to print patterns which contain large markings/raster points without, for example losing the digitally coded position information and the symbols represent at least two different values, each symbol comprising one raster point and at least one marking*).

Regarding claim 23, *Peter* discloses a system according to any of claims 20 to 22 wherein the marking device is arranged to apply the pattern and the content to the product in a one-pass process (*see page 9, line 25- page 10, line 5, it is thus possible to print patterns which contain large markings/raster points without, for example losing the digitally coded position information and the symbols represent at least two different values, each symbol comprising one raster point and at least one marking*).

Regarding claim 24, *Priddy* discloses an image having a plurality of regions, each region having content characteristics defining the content within it and pattern characteristics defining the pattern within it, wherein the pattern characteristics and the content characteristics are co-ordinated such that each region of the image meets predetermined criteria whereby the pattern is distinguishable over the content region (*see items 104, 106 and 108, determination of density, determination cell position and identifying pattern distribution key and column 6, line 66-column 7, lines 16, the amount*

of desired redundancy is then input into CPU 28 ranging from no redundancy to as high as 400% repetition of the pattern).

Regarding claim 27, *Peter discloses a data carrier carrying data arranged to control a computer system to perform the method according to any of claims 1 to 18 (see page 12, lines 3-5, the software may be present, or stored, in any form known in the art, such as any volatile or non-volatile memory units capable of being connected to the processor and control computer system referred to processor).*

Regarding claim 28, *Peter discloses a data carrier carrying data arranged to control a position identifying system to perform the method according to claim 25 see page 12, lines 3-5, the software may be present, or stored, in any form known in the art, such as any volatile or non-volatile memory units capable of being connected to the processor and page 12, lines 24-28, the paper has x coordinate axis and a y- coordinate axis. In this case, the position determination can be carried out on the surface on the entire product. In other cases, surface which allows the position determination may constitute a lesser part of the product).*

Regarding claim 29, *Peter discloses a data carrier carrying data arranged to control a marking system to operate as a system according to any of claims 19 to 23 (Fig.5a shows an image in the form of a coding pattern which comprises markings with varying sizes and page 12, lines 3-5, the software may be present, or stored, in any form known in the art, such as any volatile or non-volatile memory units capable of being connected to the processor and software referred to system operate).*

Regarding claim 30, Peter *discloses* a data carrier carrying data arranged to control a computer system to operate as a system according to claim 26 *see page 12, lines 3-5, the software may be present, or stored, in any form known in the art, such as any volatile or non-volatile memory units capable of being connected to the processor and software referred to system operate).*

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AKLILU K. WOLDEMARIAM whose telephone number is (571)270-3247. The examiner can normally be reached on Monday-Thursday 6:30 a.m.-5:00 p.m EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on 571-272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/571,060
Art Unit: 2624

Page 16

Samir Ahmed
Examiner
Art Unit 2624

/A. k. W./
Examiner, Art Unit 2624
01/07/2009

/Brian Q Le/
Primary Examiner, Art Unit 2624